Appln. No. 10/533,356

Amdt. dated March 1, 2009

Reply to Office action of November 28, 2008

## **Amendments to the Claims:**

This listing of the claims will replace all prior versions, and listings, of claims in the application:

## **Listing of Claims:**

1. (currently amended) Method-A method for identifying and authenticating different objects or substances, this-the method using a computer system coupled to spectrophotometry means, said method comprising at least the two following successive phases:

- an initial phase comprising:
- choosing a plurality of chemical markers which, when excited by an incident light ray, emit energy radiations whose frequency spectra can be distinguished from one another and with respect to objects and substances in which they are intended to be incorporated,
- allocating then incorporating, in each of the objects or substances, a combination of markers that is different to the than combinations allocated to the other markers objects or substances,
- determining an authentication code for said object or said substance each of the objects or substances defined using parameters comprising at least the presence or absence of markers in the allocated combination of markers,
- storing, in the a memory of a the computer system, the authentication code of all the objects or substances and of related data corresponding to these objects or these substances,
- allocating an identification code to the object or substance, such as a bar code or similar, this said identification code possibly being associated with at least one of the object, with

or the substance, and with its a recipient, and/or its or packaging for the object or substance,

- storing, in the memory of said system, the identification codes for each of the objects,
- defining a correspondence between the identification codes and the authentication codes.
  - an identification and authentication phase by said system, this phase comprising:
- theoretical identification of the object or substance by reading the identification code associated with one of the object objects or substances and/or the recipient or packaging for the object or substance,
- spectrophotometric analysis of at least part of the object or substance so as to detect said above parameters, in particular the presence or absence of markers, and determination of the authentication code of the object or substance,
- authentication of the object if the theoretical identification code corresponds to the authentication code,
- emission of a validation signal if a correspondence is detected or of an alert signal if the authentication code does not correspond to the identification code[[.]].

wherein said spectrophotometric analysis comprises the following steps:

- determining zones of the spectrum to be analysed, the different parameters allocated to each of these zones, using said above identification codes,
- irradiating the marked object or substance with a light ray emitted by a generator,
- sending the transmitted or reflected waves onto a dispersing element which deflects them
  so as to obtain a light spectrum of the light intensity in said zones of the spectrum
  corresponding to different wavelength ranges.

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- detecting the light intensity in said zone,
- comparing the detected light intensity with one or more threshold values specifically
   allocated to this zone and which are recorded in memory as being said above parameters,
   and
- using the result of this comparison in the determination of the authentication code of the
   object.

## 2.-3. **(Cancelled)**

- 4. (Currently Amended) Method as in <u>claim 2 claim 1</u>, comprising servocontrolling the light intensity emitted by the light radiation generator in relation to the difference between the value of the detected light intensity, over a predetermined frequency range not affected by the presence of the markers, and a predetermined set value.
- 5. (**Previously Presented**) Method as in claim 1, comprising the incorporation into the object and/or substance of one or more calibration markers by means of which the computer system conducts corrections and/or calibration so as to overcome noises possibly deriving from the composition of the substance or object, from variations in positioning such as the angle of incidence of the radiation emitted by the light ray generator, and distance to the object.
- 6. (Currently Amended) Method as in claim 2 claim 1, wherein said above generator of light radiation comprises a light source with wide frequency spectrum such as an arc lamp or a light bulb generating a white light.
- 7. (**Currently Amended**) Method as in claim 2 claim 1, wherein said generator of light radiation comprises a plurality of laser radiation sources specifically chosen in relation to

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the type of chemical markers used, and a mixer to mix the different radiations emitted by these sources.

- 8. (Currently Amended) Method as in elaim 2 claim 1, wherein said processing of data from spectrophotometric analysis comprises the following steps:
  - sampling of the spectrum,
  - conversion of the analogue signal into a digital signal having a predetermined frame (block 4),
  - <u>fenestration\_windowing\_in</u> relation to the wavelength ranges indicated in the authentication data stored in memory, and extracted by identifying the bar code, so as to determine a readout code with said above parameters—(block 5),
  - comparison of authentication data with the experimental data or readout code (block 6),
  - displaying of the result visually and/or audibly so as to indicate:
    - successful authentication if the authentication codes and the readout code coincide (bloe 7),
    - an alert in the event of non-authentication if the authentication codes and the readout code do not tally-(block 8).
- 9. (Currently Amended) Method as in claim 1, wherein said marking is made via a medium containing the marker or markers, this medium possibly being a label or an insert.
- 10. (**Previously Presented**) Method as in claim 9, wherein said medium containing the marker or markers is reflective.
- 11. (**Previously Presented**) Method as in claim 9, wherein a blank medium free of any marker is added and also irradiated then, during data processing, the spectrum data of the

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blank medium are subtracted from the spectrum data of the marked medium so as to eliminate corresponding signals and to simplify analysis.

12. (**Previously Presented**) Method as in claim 11, wherein, during data processing, the spectrum data of the object or substance free of markers are subtracted from the spectrum data of the marked object or substance.

13. (**Previously Presented**) Method as in claim 1, wherein said combination of markers comprises at least one fluorescent marker.

14. (**Previously Presented**) Method as in claim 11, wherein said parameters also comprise the duration of the light emission of the substance to be identified subsequent to excitation.

15. (Currently Amended) Method as in claim 14, wherein said parameters comprise:

- the presence or absence of fluorescence,
- a fluorescence time greater or less than a threshold value,
- the presence or absence of a peak at a preset wavelength <u>and/or,emissionand/or</u> <u>emission</u> peak heights corresponding to a concentration of markers that is greater or less than a predefined threshold value.